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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,230	11/20/2003	Kaoru Kumagai	1715333	9923
24240	7590	12/02/2005	EXAMINER	
CHAPMAN AND CUTLER 111 WEST MONROE STREET CHICAGO, IL 60603			RATCLIFFE, LUKE D	
			ART UNIT	PAPER NUMBER
			3662	
DATE MAILED: 12/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/718,230

**Applicant(s)**

KUMAGAI ET AL.

**Examiner**

Luke D. Ratcliffe

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima (5589939) in view of Bremer (4713533).

Referring to **claim 1**, Kitajima shows an automatic tracking surveying (Figure 3), a light receiving portion with an image sensor (columns 1 line 55 to column 2 line 15), arithmetic means for calculating position within the position computer (see figure 11.9), rotation mechanism (figure 11.1), and a light receiving sensor (column 2 lines 50-60). It is inherent that a light receiving unit such as the one in Kitajima will encompass a light receiving sensor and that the output of the sensor will go to the position computer. Kitajima does not show an arithmetic device that will distinguish a portion of reflected light from a light image other than the reflected light.

Bremer shows an arithmetic device that will distinguish a portion of reflected light from a light image other than the reflected light. It would have been obvious to modify Kitajima to include the arithmetic device that will distinguish a portion of reflected light from a light image other than the reflected light because this would allow for the detector to ignore ambient light or light from other light sources and would not allow for crosstalk between multiple sensors and transmitters.

Referring to **claim 5**, Kitajima shows an automatic tracking device wherein based on the light received in time-interval measuring by said image sensor, the surveying machine body is rotated (column 2 lines 50-60).

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima (5589939) in view of Bremer (4713533) as applied to claim 1 above, and further in view of Onaka (5696859).

Onaka shows a modulated signal and synchronization detecting means (column 7 lines 12-45). During the time of the invention it would have been obvious to modify a tracking apparatus to include this modulation and synchronization detecting means for detecting an optical signal to automate the tracking apparatus.

**Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima (5589939) in view of Bremer (4713533) as applied to claim 1 above, and further in view of Faramarzpour (3652164).

Faramarzpour shows a beam splitter that transmits a portion of light to a surface (columns 3 and 4). During the time of the invention it would have been obvious to modify a tracking apparatus so that it includes such a beam splitter to project a portion of a beam onto a light-receiving sensor that is disposed in the conjugated position with the image sensor.

**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima (5589939) in view of Bremer (4713533) as applied to claim 1 above, and further in view of Konishi (6671002).

Konishi shows a synchronization detecting circuit that will judge whether or not the pattern of symbols in a modulated data string with "+" and "-" signs are present (column 22 lines 15-45). During the time of the invention it would have been obvious to modify a tracking apparatus such that a synchronization detecting circuit with a modulated input and apply this to automate the tracking apparatus.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rentzepis (3730629) and Zaroni (3768910) show beam splitters that allow a portion of light from a source to pass to a destination much like a light sensor. Katoh (6526107), Inazawa (6587948), Furuya (4977550), and Purrazzella (5600123) show a modulated signal that is then deciphered by a synchronization detection circuit. Brienza (4150285) and Colbourne (6552782) show relevant art to this invention.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 9:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

LDR  
7/19/05

  
THOMAS H. TARCZA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600